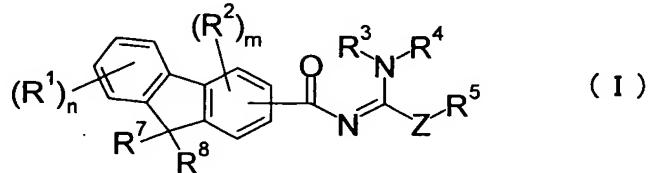


Claim

1. A fluorene derivative represented by the following general formula (I) or a pharmaceutically acceptable salt
5 thereof,



(symbols in the formula represent the following meanings,

R¹ and R²: the same or different from each other and each
10 represents -R⁰, a lower alkenyl, a lower alkynyl, a halogen,
-OH, -O-R⁰, -O-CO-R⁰, -NH₂, -NR⁶-R⁰, -CN, -NO₂, -CHO, -CONH₂,
-CO-NR⁶-R⁰, -CO₂H, -CO₂-R⁰, -CO-R⁰, -NR⁶-CO-R⁰, -NR⁶-CO₂-R⁰,
-O-CO-NR⁶-R⁰, -SH, -S(O)_p-R⁰, -S(O)₂-NH₂, -S(O)₂-NR⁶-R⁰,
-NR⁶-S(O)₂-R⁰, -R⁰⁰-O-CO-R⁰, -R⁰⁰-NR⁶-R⁰, -R⁰⁰-CN, -R⁰⁰-CONH₂,
15 -R⁰⁰-CO-NR⁶-R⁰, -R⁰⁰-CO₂H, -R⁰⁰-CO₂-R⁰, -R⁰⁰-CO-R⁰,
-R⁰⁰-NR⁶-CO-R⁰, -R⁰⁰-NR⁶-CO₂-R⁰, -R⁰⁰-O-CO-NR⁶-R⁰, a cycloalkyl
or a nitrogen-containing saturated hetero ring, wherein said
nitrogen-containing saturated hetero ring may be substituted
with 1 or 2 substituent groups selected from the group
20 consisting of a lower alkyl, -OH, -O-R⁰, -NH₂, -NR⁶-R⁰ and
oxo (=O);

R⁰: the same or different from one another and each
represents a lower alkyl which may be substituted with one
or more substituent groups selected from the group

consisting of -OH, -O-C₁₋₄ alkyl, -NH₂, -NR⁶-C₁₋₄ alkyl and a halogen;

R⁶: the same or different from one another and each represents a lower alkyl or H;

5 R⁰⁰: the same or different from one another and each represents a lower alkylene;

p: 0, 1 or 2;

n: 0, 1 or 2;

m: 0 or 1;

10 R⁷ and R⁸: the same or different from each other and each represents -H, -R⁰, a halogen, -OH, -O-R⁰, -NH₂, -NR⁶-R⁰, -NR⁶-CO-R⁰, -O-R⁰⁰-OH, -O-R⁰⁰-O-R⁰, a cycloalkyl or an oxygen-containing saturated hetero ring, or R⁷ and R⁸ may together form a group selected from the group consisting of oxo (=O), =N-OH, =N-OR⁰ and tetrahydropyranylidene, or R⁷ and R⁸ may together form a lower alkylene which may be interrupted by 1 or 2 divalent groups selected from the class consisting of -O-, -S(O)_p-, -NR⁶- and -CONR⁶-, and may form a 3- to 8-membered ring together with the C atom to which they are

20 linked;

Z: -NH-;

R³: -H or R⁰; and

25 R⁴ and R⁵: the same or different from each other and each represents -H, -R⁰, -CO₂-R⁰, or -CO-R⁰, or R⁴ and R⁵ may together form a divalent group and may form a 5-membered hetero ring together with the -N-C-Z- group to which R⁴ and

R^5 are linked, wherein Z may be -O- or S-, and said 5-membered ring may be substituted with 1 or 2 substituent groups selected from a lower alkyl, -OH, -O-R⁰, -NH₂, -NR⁶-R⁰ and oxo (=O)).

5

2. The fluorene derivative or pharmaceutically acceptable salt thereof described in claim 1, wherein R³ is -H or R⁰, and R⁴ and R⁵ are -H or R⁰.

10 3. The derivative or pharmaceutically acceptable salt thereof described in claim 1, wherein each of R³, R⁴ and R⁵ is -H.

15 4. The derivative or pharmaceutically acceptable salt thereof described in claim 3, wherein R⁷ and R⁸ may be the same or different from each other and each represents -H, -R⁰, -OH, -O-R⁰, -O-R⁰⁰-OH or -O-R⁰⁰-O-R⁰, or R⁷ and R⁸ together form oxo group.

20 5. The derivative or pharmaceutically acceptable salt thereof described in claim 3, wherein R⁷ and R⁸ together form a "lower alkylene which may be interrupted by 1 or 2 divalent groups selected from the class consisting of -O-, -S(O)_p-, -NR⁶- and -CONR⁶", and form a 3- to 8-membered ring 25 together with the C atom to which they are linked.

6. The derivative or pharmaceutically acceptable salt thereof described in claim 1, which is selected from the group consisting of N-(diaminomethylene)-9-hydroxy-9H-fluorene-2-carboxamide, 9-chloro-N-(diaminomethylene)-9H-fluorene-2-carboxamide, N-(diaminomethylene)-9-(hydroxyimino)-5-(hydroxymethyl)-9H-fluorene-2-carboxamide, 8-chloro-N-(diaminomethylene)-9-hydroxy-9H-fluorene-2-carboxamide, N-(diaminomethylene)-9-hydroxy-9-methyl-9H-fluorene-2-carboxamide, N-(diaminomethylene)-9-hydroxy-9-methyl-9H-fluorene-2-carboxamide (optically active substance A), N-(diaminomethylene)-9-hydroxy-9-methyl-9H-fluorene-2-carboxamide (optically active substance B), N-(diaminomethylene)spiro[1,3-dithiolane-2,9'-fluorene]-2'-carboxamide, N-(diaminomethylene)-4',5'-dihydro-3'H-spiro[fluorene-9,2'-furan]-2-carboxamide, N-(diaminomethylene)-4',5'-dihydro-3'H-spiro[fluorene-9,2'-furan]-2-carboxamide (optically active substance A), N-(diaminomethylene)-4',5'-dihydro-3'H-spiro[fluorene-9,2'-furan]-2-carboxamide (optically active substance B), N-(diaminomethylene)spiro[cyclopropane-1,9'-fluorene]-2'-carboxamide, N-(diaminomethylene)-9-methoxy-9-methyl-9H-fluorene-2-carboxamide, N-(diaminomethylene)-9-ethyl-9-methoxy-9H-fluorene-2-carboxamide, N-(diaminomethylene)-5-fluoro-9-hydroxy-9-methyl-9H-fluorene-2-carboxamide, N-(diaminomethylene)-5-fluoro-9-hydroxy-9-methyl-9H-fluorene-2-carboxamide (optically active substance A), N-

(diaminomethylene)-5-fluoro-9-hydroxy-9-methyl-9H-fluorene-
2-carboxamide (optically active substance B), N-
(diaminomethylene)-5'-fluorospiro[1,3-dithiolane-2,9'-
fluorene]-2'-carboxamide and N-(diaminomethylene)-5-fluoro-
5 9-methoxy-9-methyl-9H-fluorene-2-carboxamide.

7. A pharmaceutical composition comprising the
derivative or pharmaceutically acceptable salt thereof
described in claim 1 and a pharmaceutically acceptable
10 carrier.

8. The pharmaceutical composition described in claim
7, which is a 5-HT_{2B} receptor and 5-HT₇ receptor dual
antagonist.

15 9. The pharmaceutical composition described in claim
7, which is a prophylactic antimigraine agent.

10. Use of the derivative or pharmaceutically
20 acceptable salt thereof described in claim 1 for producing a
5-HT_{2B} receptor and 5-HT₇ receptor dual antagonist or a
prophylactic antimigraine agent.

11. A method for preventing migraine, which comprises
25 administering a therapeutically effective amount of the

**fluorene derivative or pharmaceutically acceptable salt
thereof described in claim 1 to a patient.**